3GPP TSG-RAN WG2 #124 R2-23xxxxx

**Chicago, USA, 13th – 17th November 2023**

Agenda Item: 7.2.1

Source: Ericsson

Title: [Post124][415][POS] Rel-18 Positioning 38.331 CR (Ericsson)

Document for: Discussion, Decision

# Introduction

This is to kick off the email discussion.

* [Post124][415][POS] Rel-18 Positioning 38.331 CR (Ericsson)

 Scope: Finalise and check the Rel-18 positioning 38.331 CR (including taking into account parameter list updates).

 Intended outcome: Agreed CR

 Deadline: Short (for RP)

# 2 Discussion

## 2.1 Sidelink

Please provide your comments on the CR for sidelink. The changes are track marked with “sidelinkPositioning”

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| Company Name | Comments |
| Sharp | * **Comment #1, on the field for configuring SL PRS resources within** ***SL-PRS-ResourcePool*:**

We suggest the following yellow highlighted changes:

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| SL-PRS-ResourcePool-r18 ::= SEQUENCE { [...] sl-PRS-ResourcesDedicatedSL-PRS-RP-r18 SEQUENCE (SIZE (1..12)) SL-PRS-ResourceDedicatedSL-PRS-RP-r18 OPTIONAL, -- Need M |

 Reason why the IE *SL-PRS-ResourceDedicatedSL-PRS-RP-r18* should correspond to one (rather than multiple) SL PRS resource: - Fields in *SL-PRS-ResourceDedicatedSL-PRS-RP-r18*: sl-PRS-ResourceID, sl-CombSize, sl-PRS-comb-offset, sl-PRS-starting-symbol, sl-NumberOfSymbols.- Each SL PRS resource is associated with a SL PRS resource ID, a comb-size, a comb-offset, a starting symbol, and a number of symbols, as can be found in the endorsed CR to TS 38.214, R1-2310764,

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| 8.2.4 SL PRS transmission procedureThe following parameters for SL PRS transmission are associated with each SL PRS resource:- [*SL PRS resource ID*] indicates an identity of a SL PRS resource. The SL PRS resource is identified by the SL PRS resource ID that is unique within a slot of a dedicated SL PRS resource pool. For a shared SL PRS resource pool, a SL PRS resource is uniquely identified by a combination of the SL PRS resource ID and a SL PRS frequency domain allocation within a slot indicated by “frequency resource assignment” field in the associated SCI.- [*SL PRS comb offset and comb size*] indicates a comb offset and a comb size of the SL PRS resource- [*Starting symbol and the number of SL PRS symbols*] indicates the starting symbol index and the number of symbols of the SL PRS resource within a slot in a dedicated SL PRS resource pool. [*number of SL PRS symbols*] indicates the number of symbols of the SL PRS resource within a slot in a shared SL PRS resource pool. |

Reason why the field “*sl-PRS-ResourcesDedicatedSL-PRS-RP-r18*” should correspond to “a sequence of” *SL-PRS-ResourceDedicatedSL-PRS-RP-r18*:- As captured in the endorsed CR to TS 38.212, R1-2310744, “*sl-PRS-ResourcesDedicatedSL-PRS-RP-r18*” is used to configure a number () of SL PRS resources in a slot of a dedicated SL PRS resource pool.

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| 8.3.1.2 SCI format 1-B[...]- Resource ID indication –bits when the value of the higher layer parameter *sl-MaxNumPerReserve-Dedicated-SL-PRS-RP*  is configured to 2; otherwise bits when the value of the higher layer parameter *sl-MaxNumPerReserve-Dedicated-SL-PRS-RP* is configured to 3. The value is the total number of SL PRS resources within a slot in a dedicated SL PRS resource pool and provided by the higher layer parameter *sl-PrsResources-Dedicated-SL-PRS-RP*. |

 Reason for 1..12:

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| RAN1#114bis AgreementThe maximum number of SL PRS resources that can be (pre)configured in a slot of a dedicated resource pool is 12. |

 Rapporteur: Thanks; this has been addressed in new version. |
| ZTE | Delete sl-PRS-TxPoolExceptional-r18. no agreement is made regarding whether exceptional pool should be used for SL-PRS in both R1 and R2Rapporteur: In last meeting, it was agreed to follow legacy approach; i.e there will be pool exceptional. Since legacy pool may not be applicable to transmit SL-PRS; the pool should be configured to be allowed to transmit SL-PRS; hence the exceptional pool should also be new pool.But we are fine to add this as an FFS. |
| ZTE | Delete the following field description since there is no corresponding ASN.1 IE***sl-TxParameters***Indicates PSSCH transmission parameters.Rapporteur: Thanks; this has been addressed in new version. |
| ZTE |

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| SL PRS in a shared resource pool | sl-TriggerConditionRequest | Existing | Update to the current description in 38.331:Indicates the trigger condition of an explicit request from UE-B to UE-A for transmission in a shared SL PRS resource pool. Value 0 means the explicit request is triggered by UE-B's implementation. Value 1 means the explicit request can be triggered only when UE-B has data or SL PRS to be transmitted to UE-A. | INTEGER (0 .. 1) | Per shared SL PRS RP |

For the legacy IE sl-TriggerConditionRequest-r17, field description should be added according to above R1 parameter list;And, sl-TriggerConditionRequest-r18 in SL-ResourcePool should be deletedRapporteur: Thanks; this IE has been updated and the IE with -r18 deleted in new version. |
| ZTE | SL-PRS-ResourcePool-r18 ::= SEQUENCE { sl-PRS-PSCCH-Config-r18 SetupRelease { SL-PSCCH-ConfigDedicatedSL-PRS-RP-r18} OPTIONAL, -- Need M sl-StartRB-SubchannelDedicatedSL-PRS-RP-r18 INTEGER (0..265) OPTIONAL, -- Need M sl-RB-Number-r18 INTEGER (10..275) OPTIONAL, -- Need M sl-TimeResource-r18 BIT STRING (SIZE (10..160)) OPTIONAL, -- Need M sl-PosAllowedResourceSelectionConfig-r18 ENUMERATED {c1, c2, c3} OPTIONAL, -- Need M sl-PRS-ResourceReservePeriodList-r18 SEQUENCE (SIZE (1..16)) OF SL-ReservationPeriodAllowedDedicatedSL-PRS-RP-r18 OPTIONAL, sl-PRS-SequenceID-r18 INTEGER (0..4095) OPTIONAL, -- Need M sl-PRS-ResourcesDedicatedSL-PRS-RP-r18 SL-PRS-ResourcesDedicatedSL-PRS-RP-r18 OPTIONAL, -- Need M sl-PRS-PowerControl-r18 SL-PRS-PowerControl-r18 OPTIONAL, -- Need M  sl-SensingWindowDedicatedSL-PRS-RP-r18 ENUMERATED {ms100, ms1100} OPTIONAL, -- Need M sl-TxPercentageDedicatedSL-PRS-RP-List-r18 SEQUENCE (SIZE (8)) OF SL-TxPercentageDedicatedSL-PRS-RP-Config-r18 OPTIONAL, -- Need M sl-SCI-basedSL-PRS-TxTriggerSCI1-B-r18 BOOLEAN OPTIONAL, -- Need M sl-NumSubchannelDedicatedSL-PRS-RP-r18 INTEGER (1..27) OPTIONAL, -- Need M sl-SubchannelSizeDedicatedSL-PRS-RP-r18 ENUMERATED {n10, n12, n15, n20, n25, n50, n75, n100} OPTIONAL, -- Need M sl-MaxNumPerReserveDedicatedSL-PRS-RP-r18 ENUMERATED {n2, n3} OPTIONAL, -- Need M sl-NumReservedBitsSCI1B-DedicatedSL-PRS-RP-r18 INTEGER (0..20) OPTIONAL, -- Need M sl-SRC-ID-LenDedicatedSL-PRS-RP-r18 ENUMERATED {n12, n24} OPTIONAL, -- Need M sl-CBR-PriorityTxConfigDedicatedSL-PRS-RP-List-r18 SEQUENCE (SIZE (1..8)) OF SL-PriorityTxConfigIndexDedicatedSL-PRS-RP-r18 OPTIONAL, -- Need M sl-TimeWindowSizeCBR-DedicatedSL-PRS-RP-r18 ENUMERATED {ms100, slot100} OPTIONAL, -- Need M sl-TimeWindowSizeCR-DedicatedSL-PRS-RP-r18 ENUMERATED {ms1000, slot1000} OPTIONAL, -- Need M sl-DefaultTxConfigIndexDedicatedSL-PRS-RP-r18 INTEGER (0..maxCBR-LevelDedSL-PRS-1-r18) OPTIONAL, -- Need M sl-CBR-ConfigIndexDedicatedSL-PRS-RP-r18 INTEGER (0..maxCBR-ConfigDedSL-PRS-1-r18) OPTIONAL, -- Need M sl-PRS-TxConfigIndexList-r18 SEQUENCE (SIZE (1.. maxCBR-LevelDedSL-PRS-1-r18)) OF SL-PRS-TxConfigIndex-r18 OPTIONAL, -- Need M sl-CBR-CommonTxDedicatedSL-PRS-RP-List-r18 SL-CBR-CommonTxDedicatedSL-PRS-RP-List-r18 OPTIONAL, -- Need M sl-PriorityThreshold-UL-URLLC-r18 INTEGER (1..9) OPTIONAL, -- Need M sl-PriorityThreshold-r18 INTEGER (1..9) OPTIONAL -- Need M}SL-PriorityTxConfigIndexDedicatedSL-PRS-RP-r18 ::= SEQUENCE { sl-PriorityThresholdDedicatedSL-PRS-RP-r18 INTEGER (1..8) OPTIONAL, -- Need M sl-TxConfigIndexDedicatedSL-PRS-RP-r18 INTEGER (0..maxCBR-LevelDedSL-PRS-1-r18) OPTIONAL, -- Need M sl-CBR-ConfigIndexDedicatedSL-PRS-RP-r18 INTEGER (0..maxCBR-ConfigDedSL-PRS-1-r18) OPTIONAL -- Need M} Green part should be deleted, yellow part should be moved to SL-PriorityTxConfigIndexDedicatedSL-PRS-RP-r18Rapporteur: Thanks! We have corrected and updated in the new version.  |
| Huawei, HiSilcion | * In 5.5.3.1: “2> if the UE is in RRC\_IDLE or in RRC\_INACTIVE”  and  “2> if the UE is in RRC\_CONNECTED”

* In UAI related part, 5.7.4.2 and ASN.1, priority is included in UAI for UE to request periodic SL grant configuration, but RAN2 only agreed to include priority in MAC CE for aperiodic SL-PRS transmission.

* For the SL-PRS resource configuration in the shared RP, it should contain a list of SL-PRS resource configurations, so that SCI should indicate the scheduled/reserved one. Similarly, for the SL-PRS resource configuration in the dedicated RP, it should also contain a list of SL-PRS resource configurations.

* Has RAN1 agreed on exceptional pool for SL PRS or what is the use for this exceptional pool? The same comment also applies for the part with CBR measurements

* We have already agreed that SL positioning will not be configured for MR-DC. So, SRB1 should be fine. The note can be removed

* Partial sensing is not supported on dedicated resource pool

.* There is only a single 1> bullet. All the procedure in this section can be moved up one level

* Although I understand the sentence below is mostly borrowed from the legacy, I would suggest to reformulate the wording because it is currently broken sentence and hard to read

* In addition to priority, SL-PRS delay budget should also be added in the UAI

SL-PRS-UE-AssistanceInformationNR-r18 ::= SEQUENCE (SIZE (1..maxNrofSL-PRS-TxConfig-r18)) OF SL-PRS-TxInfo-r18SL-PRS-TxInfo-r18 ::= SEQUENCE { sl-PRS-Periodicity-r18 ENUMERATED {ms100, ms200, ms300, ms400, ms500, ms600, ms700, ms800, ms900, ms1000, spare6, spare5, spare4, spare3, spare2, spare1}, sl-PRS-Priority-r18 INTEGER (1..8) OPTIONAL}* There is no agreement yet whether the new SIB needs segmentation. If the size of the SIB can be larger than 2976 bits, segmentation is needed
* In search space config, the new DCI formats need to be added. Although this should actually come from RAN1. ;]

* -r18 is missing

* Imported fields should be added

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##

# Conclusion

In the previous sections we made the following observations:

Based on the discussion in the previous sections we propose the following:

# References